UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/710,654	07/27/2004	Gary A. Deeter	JD-308	4653

25884 7590 01/20/2006

JOHNSON POLYMER, INC.
8310 16TH STREET- M/S 510
P.O. BOX 902
STURTEVANT, WI 53177-0902

EXAMINER	
MULLIS, JEFFREY C	
ART UNIT	**PAPER NUMBER**
1711	

DATE MAILED: 01/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/710,654	DEETER ET AL.	
	Examiner	Art Unit	
	Jeffrey C. Mullis	1711	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 November 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-59* is/are pending in the application.

4a) Of the above claim(s) *37* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-36 and 38-59* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 10-27-04, 11-22-04, 12-20-05; 2-15-05
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Applicant's election without traverse of ester functional; monomer "a" and styrene polymer and random polymers for "b" as well as asphalt reinforced material in the reply filed on 11-22-05 is acknowledged.

The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 2, 4-8, 12, 13, 15, 16, 18-20, 22, 23, 25-36, 38-45, 47-52 and 54-59 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Mehalla (US 4,465811).

Patentees disclose a composition containing an acylated styrenic "aromatic hydrocarbon resin" as in applicants component "a" having a number average molecular

weight as low as 2900 (Table I and the amount of MMA which is reacted with a living anionic polymer (Example 7). Applicants anionic polymer molecular weights can be deduced from the amount of alkyl lithium used in Example 7 assuming one chain generated per molecule of initiator, an assumption generally used in the art for (living) anionic polymerization using alkyl lithium initiators. With re to applicants weight average molecular weights for component "a" these of course a necessarily higher than number average molecular weights by definition, and polydispersity would have to be grater than 20 for patentees weight average molecular weights to lie outside the metes and bounds of the claims. With re to those claims requiring a polymeric material other than those explicitly recited by claim 1, no chemical reaction is 100 percent efficient and it would therefore be expected by those skilled in the art that some uncoupled anionically produced polymer would be present in the final composition such as polymethylmethacylate thermoplastic. The material is useful as an adhesive at column 3, lines 28-30.

When the reference discloses all the limitations of a claim except a property or function, and the Examiner cannot determine whether or not the reference inherently possesses properties which anticipate or render obvious the claimed invention, basis exists for shifting the burden of proof to applicant. Note In re Fitzgerald et al. 619 F. 2d 67, 70, 205 USPQ 594, 596, (CCPA 1980). See MPEP § 2112-2112.02.

Claims 1, 2, 4-13, 15, 16, 18-20, 22, 25-36, 38-45, 47-52 and 54-59 are rejected under 35 U.S.C. 102(b) as being anticipated by Handlin, Jr. (EP 0634420).

Example 4 of the patent discloses a reaction product of an anionically produced polyisoprene "of 6850 molecular weight" as in applicants component "b" and an epoxidized polyisoprene as in applicants component "a". The material may be added to asphalt or thermoplastics or used in adhesives at page 6, lines 38-45.

Claims 1-36 and 38-59 are rejected under 35 U.S.C. 102(b) as being anticipated by Taubitz (EP 0201787), cited by applicants.

Applicants Intermational Search Report which applicants have used for their concise explanation of this foreign language document indicates that this document is in the "X" category for all claims. The patent therefore anticipates the claims. Note the abstract for reaction of living chain end polystyrene with a polymer having chloromethyl groups pendant to styrenic units.

Claims 1-36, 38, 39, 45-48 and 50-59 are rejected under 35 U.S.C. 103(a) as being unpatentable over Powers et al (US 5,548,023).

Powers discloses a composition produced by reacting a polymer with a displaceable benzylic position with a polymeric nucleophile having a molecular weight of at least about 1,000 (column 12, line 34 – column 13, line 43 and having narrow polydispersity). Number average molecular weights of the starting as polymerized

polymer can be 500-1,000 at column 23, lines 26-50 which is then post treated to introduce electrophilic functionality such as halogen (column 24, lines 45-50). Reaction with anionically produced polymers such as polystyrene is disclosed at column 31, lines 30-37. Column 18, lines 18-20 discloses use of continuous polymerization.

There are no specific examples of materials having a combination of all of applicants features such as applicants molecular weights and use of anionic polymers. .However choice of such from the patent would have been obvious to a practitioner having an ordinary skill in the art at the time of the invention in the expectation of adequate results, absent any showing of uprising or unexpected results.

Claims 1, 2, 4-8, 12, 13, 15, 16, 18-20, 22, 23-36, 38-45, 47-52 and 54-59 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mehalla (US 4,465811) in view of Powers, cited above.

The primary reference does not disclose the use of continuous polymerization and arguably applicants molecular weights are not inherent in the reference. However use of continuous polymerization in the process of the primary reference as taught by the secondary reference would have been obvious to a practitioner having an ordinary skill in the art at the time of the invention since the secondary reference discloses that continuous polymerization may advantageously sued on a large scale, absent any showing of surprising or unexpected results.

With re to applicants molecular weights, to use such in the primary reference would have been obvious to a practitioner having an ordinary skill in the art at the time

of the invention in that it requires only routine skill at find the optimal or workable range of a result effective variable, absent any showing of surprising or unexpected results.

Yax, cited of interest is incorporated by reference by Mehalla, relied upon above.

Any inquiry concerning this communication should be directed to Jeffrey C. Mullis at telephone number 571 272 1075.

Jeffrey C. Mullis
J Mullis
Art Unit 1711

JCM

1-11-06

Jeffrey Mullis
Primary Examiner
Art Unit 1711